PATENT
P-4278

Reply Brief 2/21/01

THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Oscar J. Llorin et al.

SERIAL NO.: 09/128,340 GROUP: 1651

FILING DATE: August 3, 1998 EXAMINER: D. Ware

FOR: CELL DISRUPTION METHOD USING SONICATION

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231

ON: February 2, 2001
(DATE OF DEPOSIT)

BY: URSULA M POLIGNONE
(NAME)

Ursula M Polignone 2-2-01
(SIGNATURE) (DATE)

REPLY BRIEF PURSUANT TO 37 C.F.R. §1.193 (b) (1)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants respectfully submit that the Examiner's Answer (Paper No. 20) overstates the materiality of the cited references in at least two specific aspects:

(1) the teaching of alkaline pH in a cell disruption method; and

(2) the evidence of motivation for one of ordinary skill in the art to combine the teachings of the cited references.

I. Alkaline pH

As particularly evidenced by Example 2 of the present application (pp. 12-15), the Applicants, when testing a series of sonication solutions of different alkaline pHs, noted an enhancement of cell disruption at pHs of 10.46 and higher. This result is graphically depicted in Figure 1. In order to achieve the pHs of 10.46 and higher, the solutions were pH adjusted with KOH.

In contrast, the alkaline solutions of the Buck and Robson references are standard buffer solutions for PCR reactions. The alkalinity of these solutions (pHs of 8.3 and 8.8) are only those

necessary to assure optimal performance of a PCR reaction subsequent to cell lysis, not to enhance a sonication cell disruption method.

The Robbins reference does disclose a solution having a pH of between 8 and 11. However, this is not the solution used to lyse cells. Robbins specifically teaches a eukaryotic yeast cell lysis solution having an acidic pH of 4.5-6.5 (see column 3, lines 28-32). Such yeast cells are not difficult to lyse and are not considered to be refractory cells, as are mycobacterial cells. The alkaline solution of Robbins is a post-lysis solution used to enhance extraction of nuclease, protein and other alkaline soluble materials (see column 3, lines 45-49).

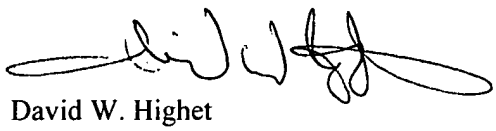
Thus, it is respectfully submitted that the alkaline pH used in the claimed methods to enhance sonication cell disruption is not taught by the cited references.

II. Evidence of Motivation to Combine Teachings of References

With regard to the above-discussed teachings regarding alkaline pH solutions, it is respectfully submitted that there is also a lack of evidence of motivation to combine the teaching of Robbins with those of Buck and/or Robson. Specifically, Robbins (the only reference that discloses a solution with a pH of 10.46 or higher), does not use such solution in a cell disruption method. In sharp contrast, Robbins uses an acidic solution in its cell lysis method. Also, as noted above, Robbins relates to the lysis of non-mycobacterial, non-refractory, eukaryotic yeast cells, and as such is not particularly relevant to the claimed invention.

Thus, it is respectfully submitted that rather then showing any evidence of motivation to combine the teachings of Robbins with those of Buck and/or Robson, the disclosure of Robbins teaches away from such a combination.

Respectfully submitted,



David W. Highet
Attorney for Applicants
Registration No. 30,265

BECTON DICKINSON AND COMPANY
1 Becton Drive
Franklin Lakes, NJ 07417-1880
(201) 847-5317
#39334